XI. *Extract of a Letter of Mr.* Abraham Trembley, *F. R. S. to* Tho. Birch, *D. D. Secret. R. S. Tranſlated from the* French.

S I R, Hague, 1 Feb. 1757.

Read Feb. 17, 1757.

I Wrote to you on the 26th of November laſt, concerning the earthquake felt ſome time before between the Rhine and the Meuſe. I have been ſince informed by Profeſſor Donati of Turin, that a ſlight ſhock had been perceived there on the 13th of Auguſt 1756, at a quarter after nine in the morning. It was likewiſe felt in other parts of Piedmont. He has alſo communicated to me an extract of a letter of a profeſſor of Genoa, one of his friends, of which the following is a tranſlation.

" On the 9th of November we felt here two " ſhocks of an earthquake; one at $20\frac{3}{4}$ hours, according to the Italian way of reckoning; the other at " about $4\frac{1}{2}$ hours at night. I did not perceive the " firſt, being then walking in the houſe; but I felt " the ſecond. I was then laid down, and going to " ſleep. The direction of the undulations was from " north to ſouth, as far as I could judge."

Monſ. Donati took laſt ſummer, according to his cuſtom, a journey, in order to proſecute his reſearches into natural hiſtory. He was accompanied by Dr. Aſcanius, Fellow of the Royal Society; who was ſtill in doubt about coral's being a compoſition of animals. Monſ. Donati carried him to the ſea of Provence. He ordered coral to be fiſhed up in his preſence.

preſence. He placed it in a large veſſel full of water; and carried this veſſel on ſhore; where he ſoon convinced Dr. Aſcanius, by his own eyes, that coral is a maſs of animals of the polype-kind.

Monſ. Donati has written to me, that he has thoroughly ſatisfied himſelf by his laſt obſervations, that the polypes are fixed to their cells; of which he had before doubted. What he ſays afterwards of coral appears to me to expreſs with more truth and preciſion what we ought to think of this kind of animals, than any of the deſcriptions, which have been given ſince the new diſcoveries have changed our ſentiments on that ſubject. Polype-beds, and the cells, which they contain, are commonly ſpoken of as being the work of polypes. They are compared to the honeycomb made by bees. It is more exact to ſay, that coral, and other coralline bodies, have the ſame relation to the polypes united to them, that there is between the ſhell of a ſnail and the ſnail itſelf, or between the bones of an animal, and the animal itſelf. Monſ. Donati's words are as follow. "I am now of opinion, that coral is nothing elſe "than a real animal, which has a very great number "of heads. I conſider the polypes of coral only as "the heads of the animal. This animal has a bone "ramified in the ſhape of a ſhrub. This bone is "covered with a kind of fleſh, which is the fleſh "of the animal. My obſervations have diſcovered "to me ſeveral analogies between the animals of "kinds approaching to this. There are, for inſtance, "keratophyta, which do not differ from coral, except in the bone or part, that forms the prop of the "animal. In the coral it is teſtaceous, and in the "keratophyta it is horny."

The obſervations, which I have made upon ſome kinds of polype-beds, lead me to think, that what are called polypes, in thoſe bodies, which are obſerved to come out of and return into the cells, are more than the heads of the animal. I have ſeen ſome, which had a bag, into which paſs'd their food, which I ſaw them ſwallow; and another bag, into which paſſed the groſſeſt part of that food, after it was digeſted. This is the caſe, for inſtance, of the plumed polypes, which I deſcribed at the end of the third memoir, in the work publiſhed by me on one kind of freſh-water polypes.

Monſ. Donati has obſerved divers very curious facts in the journey, which he made into the mountains. He has, in particular, traced out an immenſe bed of marine bodies. This bed croſſes the higheſt mountains, which ſeparate Provence from Piedmont, and loſes itſelf in the plains of Piedmont.

He has likewiſe obſerved a maſs of rock, which forms the extremity of a pretty high mountain, the foot of which is waſhed by the ſea. This rock is, at a conſiderable height, intirely pierced by pholades, that ſpecies of marine ſhell-fiſh ſo well known, which digs cells in the ſtones. It appears from hence, that this rock was ſome time covered by the ſea. According to Monſ. Donati, the ſea has inſenſibly retired from the parts, which were waſhed by it; and he thinks, that there muſt have been a very conſiderable ſpace of time between that and the time, when this mountain, pierced by pholades, was covered by the waters of the ſea. He deduces his opinion from the following fact. There is in this rock, pretty near the ſurface of the ſea, a natural cavern fill'd with earth. In this earth have been found ancient Roman ſarcophagi and lamps. It follows from hence, that even in the time of the Romans this part of the rock, in which this cavern is ſituated, was not under water. As there is but a ſmall diſtance between the cavern and the ſurface of the water, it follows, that the water has ſunk but very little ſince the time of the Romans. If it has ſunk in the ſame proportion ſince the time, when it covered the top of the rock, there is no doubt, but that the time, when it was intirely covered by the ſea, muſt have been very diſtant. If the ſame manner of reaſoning be uſed, with reſpect to the bed of marine bodies, mentioned above, which croſſes the mountains, that ſeparate Provence from Piedmont, we ſhall be obliged to preſume, that the time, when thoſe mountains were under the waters of the ſea, was at a very great diſtance from the preſent.

Monſ. Donati concludes from theſe facts, and the conſequences deduced from them, that the Mediterranean ſea is a very ancient, and not a modern one, as Monſ. de Buffon imagines.

Thoſe, who explain all the phænomena of marine bodies found out of the ſea, by an univerſal deluge, do not admit the conſequences drawn by Monſ. Donati from thoſe marine bodies now under conſideration. It is plain, that moſt of the naturaliſts, who have obſerved a great number of theſe marine bodies, are not of opinion, that all thoſe phænomena can be explained by an univerſal duluge. Upon theſe ſubjects, before we undertake to judge, it is proper to be well informed of the nature of marine foſſile bodies, which are found in divers parts, and of their ſituation and arrangement. It is neceſſary likewiſe to be ac-

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quainted with the ſtate of thoſe, which are found actually under the ſea, and the revolutions, to which they are ſubject, while they are covered by it. It is ſtill farther requiſite to have an attention to the revolutions, which have been and are conſtantly obſerved, with reſpect to the ſea-ſhores, which change their ſituation in ſeveral parts, ſome advancing upon the land, and others retiring. If all theſe different facts be compared together, it will not be doubted, but there are actually under the earth marine bodies, which are found there only in conſequence of theſe ſlow revolutions, and not of an univerſal deluge. Perhaps this notion might be extended to the greateſt part of the marine foſſile bodies, which are known to us.

Monſ. Donati informs me, that he would be glad to preſent to the Royal Society an hiſtory of coral, if he thought, that it would be agreeable to them.

XII. *A brief Botanical and Medical Hiſtory of the* Solanum Lethale, Bella-donna, *or* Deadly Nightſhade, *by Mr.* Richard Pultney. *Communicated by Mr.* William Watſon, *F. R. S.*

Read Feb. 17. 1757.

BELLA-DONNA is the name, which the Italians, and particularly the Venetians, apply to this plant; and Mr. Ray (1) obſerves, that it is ſo called becauſe the Italian ladies

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(1) Nom. Etymol. ad Calcem. Cat. Cant. p. 43. item Hiſt. Plant. p. 680.

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